Making the Grade: Family Structure and Children's Educational Participation in Colombia, Egypt, India, Kenya, Nigeria, Peru & Uruguay

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Abstract

Research in the U.S. and much of the developed world suggests that children in intact, two-parent households typically do better on educational outcomes than do children in single-parent and step-family households. While studies in the developed world generally indicate that family structure influences educational outcomes, less is known about whether children living with their two biological parents in the developing world have better educational outcomes, all things being equal, than children in step- or single-parent families, or children living in households without a biological parent. This is an important gap in the literature because step- and single-parent families are becoming more common in much of the developing world. Using data drawn from Demographic and Health Surveys in six countries (Colombia, Egypt, India, Kenya, Nigeria, & Peru) and from the Continuous Household Survey in Uruguay, we find that secondary-school-age children are more likely to participate in schooling if they live with at least one biological parent. Moreover, children in Colombia and Uruguay are also more likely to be enrolled in school if they live with two parents.

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Universal primary education of children in the developing world is one of eight goals selected by world leaders in 2000 under the aegis of the United Nations Millennium Development Initiative.[4] The focus on education embodied in the second Millennium Development Goal is but one sign that the international community now recognizes the importance of education for the economic, social, and physical well-being of children, their family members, and society at large.[5] The international community has made important strides in meeting this development goal, with primary school enrollment in the developing world up from 83 percent in 2000 to 88 percent in 2006.[6]

Nevertheless, the percentage of children who are enrolled in secondary school is markedly lower. For instance, the UN recently estimated that less than 55 percent of secondary school-age children are enrolled in a secondary school.[7] This means that the important global strides that have been made in recent years to ensure that children in the developing world get the primary education they need have not been matched by a similarly successful effort to furnish them with a secondary education.

One factor that could account for the considerable degree of variation in secondary school-age children's enrollment in school may be family structure. Indeed, recent research suggests that family structure varies widely across the developing world. For instance, only about 36 percent of children in South Africa live with both of their biological parents,

[4] http://www.un.org/millenniumgoals/bkgd.shtml
[5] Claudia Buchmann and Emily Hannum. 2001. "Education and Stratification in Developing Countries." *Annual Review of sociology* 27: 77-102; M. Anne Hill and Elizabeth M. King. 1993. "Women's Education in Developing Countries: An Overview," in Elizabeth King and M. Anne Hill (eds.), *Women's Education in Developing Countries: Barriers, Benefits, and Policies*. Baltimore: Johns Hopkins University Press.
[6] http://www.un.org/millenniumgoals/2008highlevel/pdf/newsroom/Goal percent202 percent20FINAL.pdf
[7] Ibid.

whereas an estimated 91 percent of children in Egypt live with both of their biological parents.[8] These variations in family form may have important implications for the odds that children will be able to enroll and persist in school, if biological parents play a particularly important role in devoting financial, cultural, and social resources to their children. Accordingly, this paper seeks to determine what role, if any, family structure plays in the odds that secondary school-age children in the developing world are enrolled in school.

This study presents findings from Demographic Health Survey data taken from 86,727 children of secondary school age[9] in six countries: Colombia, Egypt, India, Kenya, Nigeria, and Peru. We also rely on data from 9,841 children of secondary school age in the Continuous Household Survey in Uruguay. We focus on the link between family structure—children living with both biological parents, with one biological parent, and with no biological parent—and secondary school-age children's enrollment in school.[10] This study also examines the association between family structure and children's schooling after controlling for five sociodemographic factors: the head of the household's education, the household's wealth, region (urban or rural), the child's sex, and the child's age. These controls allow us to determine if any associations between family structure and children's schooling are robust even after controlling for sociodemographic factors that could

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[8] W. Bradford Wilcox, Laura Lippman, and Camille Whitney. 2009. *World Family Map Project Prototype.* Washington, DC: Child Trends.

[9] In Colombia, Egypt, and India, the sample includes children age 11-14. In Kenya, Nigeria, and Peru, the sample includes children age 12-14. Children older than age 14 could not be included for any country because they were not considered children in the DHS. The secondary school entry ages come from: UNESCO Institute for Statistics. 2006. *Global Education Digest 2006: Comparing Education Statistics Across the World.* http://www.uis.unesco.org/TEMPLATE/pdf/ged/2006/GED2006.pdf

[10] Enrollment in any grade. Children of secondary school age are sometimes enrolled in primary school in the countries studied.

confound or distort any links between family structure and education. Unfortunately, we do not have data on whether single parent families have experienced separation, divorce, or death—a distinction that might affect the association between family structure and secondary education.

The Family's Role in Children's Schooling

In his seminal work on education, the late James Coleman detailed the ways, in general, that the economic, cultural, and social capital of the family plays a crucial role in shaping the arc of children's educational attainment in the United States.[11] Coleman's insights, which have been supported by research in much of the developed world, suggest that the economic, cultural, and social capital of the family is important in the following ways for children's educational achievement:

- Economic capital allows parents to buy books, school uniforms, hire tutors, pay school fees or tuition, and move to neighborhoods/regions with good schools.

- Parents' cultural (or human) capital—that is, their skills, knowledge, and education—can be an important resource in guiding their children's education, in inspiring their children to make the most of their education, and in providing their children with the basic knowledge and cultural literacy they need to do well in school.

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[11] James Coleman *et al*. 1966. *Equality of Educational Opportunity*. Washington, D.C.: Government Printing Office; James Coleman. 1988. "Social Capital in the Creation of Human Capital." *American Journal of Sociology* 94 Supplement: S95-S120. James Coleman and John Johnstone. 1961. *The Adolescent Society*. New York: Free Press.

- A family's social capital—social networks constituted by family members that foster mutual aid, share information, and reinforce norms—can be crucial in monitoring, motivating, and encouraging children to become educated; moreover, family social capital can also allow children to access economic and cultural resources in their kinship networks.[12]

Coleman also argued that the structure of the family influences the likelihood that a child will have access to the economic, cultural, and social capital that maximizes his or her odds of educational success.[13] In Coleman's words:

> The physical absence of adults may be described as a structural deficiency in family social capital. The most prominent element of structural deficiency in modern families is the single-parent family. However, the nuclear family itself… can be seen as structurally deficient, lacking the social capital that comes with the presence of… grandparents or aunts and uncles in or near the household.[14]

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[12] See, for example, G.F. Peaker. 1971. *The Plowden Children Four Years Later*. London: National Foundation for Educational Research in England Wales; Barbara Schneider and James Coleman. 1993. *Parents, Children, and Primary Schools*. Boulder, CO: Westview; Yossi Shavit and Hans-Peter Blossfield. 1993. *Persistent Inequality: Changing Educational Attainment in Thirteen Countries.* Boulder, CO: Westview.

[13] James Coleman. 1988. "Social Capital in the Creation of Human Capital." *American Journal of Sociology* 94 Supplement: S95-S120. See, in particular, pp. S109-S113.

[14] Ibid. p. S111.

Coleman's basic point was this: Children may be most likely to succeed educationally when they have easy access to many family members who can invest in them, such as an extended family, and may be most likely to fail when they have access to only one or no parent, as is the case when children live in a single-parent family or in an orphanage.[15]

The "Two Parents are Better than One" Hypothesis

The ideal way to test Coleman's theory would be to compare children living in intact, extended families with their two biological parents, as well as grandparents and/or other members of their kin, with children in other family arrangements. By Coleman's reckoning, children living with both of their biological parents in extended families would have the greatest access to the economic, cultural, and social resources of their kin. While some information on the presence of relatives of the household head is available from the DHS, a complete picture of the presence of extended family members for all family types is not available. In the future, we intend to investigate this question to the extent possible where data allow. The current analysis compares the school attendance rates of children living with both of their two biological parents, one of their biological parents, or neither of their biological parents.

Thus we focus in this section on the ways in which children living with two parents might be advantaged. The social scientific literature from the developed world, especially

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[15] For a discussion of family structure and education in the developing world, see Buchmann and Hannum. 2001. Pp. 82-86.

the United States, suggests that children are more likely to excel in the educational arena when they live with their two biological parents.[16]

In particular, the literature on families in the developed world suggests four important advantages that two biological parents hold over a single- or lone-parent family:

- Two-parent families typically have access to more employment, income, savings, and kin-related economic resources than do single parent families.

- On average, two parents are able to devote more time, affection, and monitoring to their children than are single-parents.[17]

- Two parents can monitor one another's parenting, as well as relieve one another when they find that parenting is becoming difficult or wearisome. Consequently, the overall quality of parenting tends to be higher in two-parent families, compared with single-parent families.

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[16] See, for example, Paul Amato. 2005. "The Impact of Family Formation Change on the Cognitive, Social, and Emotional Well-Being of the Next Generation. *The Future of Children* 15: 75-96; John F. Ermisch and Marco Francesconi. 2001. "Family Structure and Children's Achievements." *Journal of Population* Economics 14: 249-270; Sara McLanahan and Gary Sandefur. 1994. *Growing Up With A Single Parent: What Hurts, What Helps*. Cambridge: Harvard University Press; Kristin Moore, Susan M. Jekielek, and Carol Emig. 2002. *Marriage from a Child's Perspective: How Does Family Structure Affect Children, and What Can We Do About It?* Washington, DC: Child Trends Research Brief; Margaret Ely, Martin P.M. Richards, Michael E.J. Wadsworth, and B. Jane Elliott. 1999. "Secular Changes in the Association of Parental Divorce and Children's Educational Attainment – Evidence from Three British Birth Cohorts." *Journal of Social Policy* 28: 437–455.

[17] McLanahan and Sandefur. 1994; Nicholas Zill *et al*. 1993. "Long-Term Effects of Parental Divorce on Parent-Child Relationships, Ajdjustment, and Achievement in Young Adulthood." *Journal of Family Psychology* 7: 91-103.

- Two parents are typically more successful in involving both sets of a child's kin-based networks in providing social and emotional support to a child, compared with single-parent families.[18]

But is biology important? Do children in a step-family with one biological parent and one step-parent do as well as children in an intact, biological family? On average, in the developed world, children in step-families with one biological parent do not do as well in the educational arena as do children living in intact families with both of their two biological parents.[19]

There are at least three reasons this is the case. First, step-parents typically invest less time and money in their children than do biological parents, in part because the step-parent (and the child and biological parent as well) are less likely to see step-children as their own, and in part because they generally have not had an ongoing relationship with a child since birth. Second, on average, children are less likely to respond favorably to step-parents, compared with biological parents. Step-parents can be perceived by children as interlopers, who interfere with their ability to maintain a good relationship with one or both of their biological parents. Furthermore, step-parents often do not have as clear a role, and the requisite authority, in children's lives as do biological parents. Finally, children living in a step-family are more likely to perceive that their step-parent is less invested in

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[18] For discussions of differences in parenting between two-parent and single-parent families, see McLanahan and Sandefur. 1994; W. Bradford Wilcox *et al*. 2005. *Why Marriage Matters: 26 conclusions from the Social Sciences*. New York: Institute for American Values.
[19] Amato. 2005; McLanahan and Sandefur. 1994.

their lives than children living with their two biological parents (see above).[20] Third, step-parents are significantly more likely to be abusive or neglectful towards their children, compared with biological parents. This distinctive pattern of abuse/neglect is probably related to the fact that step-parents are less likely to have a longstanding relationship with their step-children, to have a clearly defined role in the family, and to have a strong identity as a parent of their step-children.[21] (Some research suggests that they are more likely to be reported as well.)

Less is known about whether the intact, biological two-parent family also confers advantages to children in the developing world. But the literature suggests that the biological two-parent family may be particularly important for children's educational success in societies where fathers are known to invest financially and practically in their children, and where the extended family is relatively less influential, such as Latin America and North America.[22] By contrast, the two-parent biological family may be less important in societies where mothers and/or extended family members take a leading role in a child's education, such as Asia and Sub-Saharan Africa.[23]

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[20] Andrew Cherlin. 2009. *The Marriage-Go-Round*. New York: Knopf; Elizabeth Marquardt. 2005. *Between Two Worlds: The Inner Lives of Children of Divorce*. New York: Crown.

[21] For a discussion of the distinctive dynamics of parenting in step-families, see Paul R. Amato. 1987. "Family Processes in One-Parent, Stepparent, and Intact Families; The Child's Point of View." *Journal of Marriage and Family* 49: 327-337; Anne Case, I-Fen Lin, and Sara McLanahan. 2001. "Educational Attainment of Siblings in Stepfamilies." *Evolution and Human Behavior* 22: 269-289; Andrew Cherlin. 1978. "Remarriage as an Incomplete Institution." *American Journal of Sociology* 84: 634-650; Martin Daly and Margo Wilson. 1985. "Child Abuse and Other Risks of Not Living with Both Parents." *Ethology and Sociobiology* 6: 197-210.

[22] Sonalde Desai. 1992. "The Role of Family Structure in Latin America and Western Africa." *Population and Development Review* 18: 689-717; J. Douglas Willms and Marie-Andree Somers. 2001. "Family, Classroom, and School Effects on Children's Educational Outcomes in Latin America." *School Effectiveness and School Improvement* 12: 409-445.

[23] Ibid. Parfait M. Eloundou-Enyegue and Lindy B. Williams. 2006. "Family Size and Schooling in Sub-Saharan African Settings: A Reexamination." *Demography* 43: 25-52; Cynthia B. Lloyd and Ann K. Blanc. 1996. "Children's Schooling in Sub-Saharan Africa: The Role of Fathers, Mothers, and Others." *Population and Development Review* 22: 265-298.

In sum, if children in the developing world typically benefit from two biological parents in much the same way that children do in the developed world, then we would **predict that secondary school-age children in the developing world are more likely to be enrolled in school if they are living with both of their biological parents**, compared with children living with one or neither of their biological parents.

The "Mother Knows Best" Hypothesis

It is also possible that family structure does not affect children's educational enrollment in the developing world in the same way that it does in the developed world. One possibility in particular is that children reared in single-parent homes, usually by their mothers, actually do better than children reared in homes with both of their biological parents. This is because there is evidence to suggest that mothers are more likely to devote economic and social capital to their children than are fathers, and that single mothers are freer to focus on their children than are mothers in two-parent households.

For instance, a number of studies in Sub-Saharan Africa have found that children are more likely to succeed in the educational arena if they are raised in female-headed households, compared with children raised in homes with their two biological parents.[24] In reflecting on their findings regarding female-headed households and children's school enrollment in Sub-Saharan Africa, Cynthia Lloyd and Ann Blanc argue that in many African societies "female household heads are more likely to invest resources, including time, money, and emotional support, in facilitating the education of children living in their

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[24] Fuller and Liang. 1999. Lloyd and Blanc. 1996.

household" than are male household heads.[25] This could give children an educational advantage in female-headed households.

This growing body of research suggests that we might **expect to find that secondary school-age children in the developing world are more likely to be enrolled in school if they are living with a single biological parent (usually their mother)**, compared with children living with two or neither of their biological parents. Moreover, given regional variations in paternal investments, this pattern may be particularly pronounced in Sub-Saharan Africa.[26]

The Parents Don't Matter Hypothesis

Another possibility is that the presence of biological parents does not matter for children's educational enrollment in the developing world. Here, there are two different reasons why the presence of one or two biological parents may not be crucial for secondary school-age children's enrollment in school in the less-developed world. The first reason that the presence of biological parents may not matter much is that the family environment itself may be less consequential for children's education in the developing world than other factors in the social environment.

Specifically, some research indicates that school quality is a much more important factor in predicting children's educational performance in the developing world than is family background. For instance, after studying this topic, Stephen Heyneman and William Loxley conclude that "school and teacher quality appear to be the predominant influence

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[25] Ibid, p. 288.
[26] Ibid; Desai. 1992.

on student learning around the world; and the poorer the national setting in economic terms, the more powerful this school effect appears to be."[27]

A second reason that the presence of biological parents may not necessarily matter is that the extended family is so strong that kin networks—grandparents, aunts, uncles, and so forth—buffer against the disadvantages associated with single parenthood, orphanhood, poverty, or poor schools near one's biological parents.

Specifically, research indicates that in some developing countries the extended family is so strong that it offers a "safety net" that buffers against any potential ill effects of single parenthood, orphanhood, and poverty when it comes to children's education.[28] A number of studies of Asian countries suggest that children in single-parent families do as well or better than children in two-parent families because extended family members tend to reach out to single mothers and provide them with extra financial and social resources to make up for the loss of a father due to divorce or death.[29] Likewise, a number of studies in Africa indicate that children who are fostered to kin—either because they are orphans, because their biological parents are too poor, or because their kin have access to better schools than their biological parents—can do as well or better in school as children who reared by their biological parents.[30]

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[27] Stephen P. Heneman and William A. Loxley. 1983. "The Effect of Primary-School Quality on Academic Achievement across Twenty-nine High- and Low-Income Countries." *American Journal of Sociology* 88: 1162- 1194. p. 1184.

[28] Parfait M. Eloundou-Enyegue and David Shapiro. 2004. "Buffering Inequalities: The Safety Net of Extended Families in Cameroon." *SAGA Working Paper*. Ithaca, NY: Cornell University.

[29] See, for example, Hyunjoon Park. 2007. "Single Parenthood and Children's Reading Performance in Asia." *Journal of Marriage and Family* 69: 863-877; Suet-Ling Pong. 1996. "School Participation of Children from Single-Mother Families in Malaysia." *Comparative Education Review* 40: 231-249.

[30] R. Akresh. 2004. "Adjusting Household Structure: School Enrollment Impacts of Child Fostering in Burkina Faso." *BREAD Working Paper* 89; New Haven: Yale Economic Growth Center Working Paper No. 897; Eloundou-Enyegue and Shapiro. 2004; Lloyd and Blanc. 1996.

Given the existing research, the null hypothesis would **predict that the presence of one or two biological parents is not associated with the likelihood that secondary school-age children are enrolled in school.** This hypothesis seems particularly possible for children in Asia and Sub-Saharan Africa, where extended kinship networks are especially strong.

The Family Contexts of Children in the Developing World

Table i indicates that there is considerable variation in the percentage of secondary school-age children (aged 11-14 or 12-14, depending on the country) who are living with both biological parents—from a low of 51 percent in Kenya to a high of 87 percent in Egypt. Likewise, when it comes to single-parent families, the percentage of children living with just one parent ranges from a low of 12 percent in Egypt to a high of 37 percent in Uruguay. Finally, children are most likely to live in a home without either of their biological parents—either due to orphanhood or fosterage—in Kenya and Nigeria (19 percent) and least likely to live apart from both of their biological parents in Egypt (2 percent).

More generally, Table i suggests that, among children in the developing world, children are most likely to live with both biological parents in the Middle East and Asia, and least likely to live with one or both biological parents in South America and Sub-Saharan Africa. This is consistent with other international research on children living with two biological parents.[31]

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[31] Wilcox, Lippman, and Whitney. 2009.

The Presence of Parents & Secondary School-Age Children's Schooling

Descriptive Data. How is family structure related to the enrollment of secondary school-age children in school? In our bivariate analyses, as Table 1 shows, children in Colombia, Egypt, India, and Uruguay are significantly more likely to be enrolled in school if they live with both biological parents, compared with children living with one or no biological parents.

By contrast, children in the African countries of Kenya and Nigeria are not advantaged if they live with two biological parents, compared with children living in a single-parent home. In fact, children in Nigeria are more likely to be enrolled in school if they are living with a single parent. Moreover, children in Nigeria who live in a home without their biological parents are no different, statistically speaking, in their probability of school enrollment, compared with children living with one or both biological parents. However, children living with one or two biological parents in Kenya are more likely to be enrolled in school, compared with children living with no biological parents.

Finally, children in Peru living with one or two biological parents are equally advantaged, compared with children living in a home without their biological parents.

Controlling for Background Differences. These patterns change once we control for the effects of five important sociodemographic factors—the education of the head of the household, the wealth of the household, region (urban or rural), the child's sex, and the child's age. As Table 2 indicates, compared with children living in a household with one biological parent, children living with two biological parents are only advantaged in Colombia and Uruguay. Specifically, in Colombia, children living with one biological parent are 28 percent less likely to be enrolled in school, compared with children living with two

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biological parents; in Uruguay, children living with one biological parent are 20 percent less likely to be enrolled in school. In the other five countries analyzed here, children living with two biological parents are not more likely to be enrolled in school compared with children in a home with one biological parent.

However, the picture changes when we turn our focus to children living in a home without any biological parents, due to orphanhood or fosterage, or other reasons. Here, Table 2 shows that secondary school-age children are significantly less likely to be in school if they are living in a home without their biological parents, compared with children living in a home with both of their biological parents. After controlling for sociodemographic factors, Table 2 indicates that children in Colombia, Egypt, India, Kenya, and Peru are about half as likely to be enrolled in school if they are living in a home without their biological parents. The only exceptions to this pattern are Nigeria and Uruguay, where family structure does not predict secondary school-age children's enrollment in school.

Overall, then, our results suggest that the presence of two biological parents is less important for children's educational participation in these developing countries than studies among children in the developed world suggest. However, our analyses suggest that children do benefit from living with at least one biological parent, as children who are orphaned or fostered are less likely to be enrolled in school in five out of the seven countries we studied for this paper.

Conclusion

A great deal of scholarly attention has been focused on the link between family structure and children's educational success in the developed world, but less attention has

been devoted to this subject in the developing world. Given important variations in children's school enrollment and in family structure in the developing world, this study has sought to address this gap in the literature by exploring how the presence of biological parents is related to school enrollment among secondary school-age (11-14) children in seven countries: Colombia, Egypt, India, Kenya, Nigeria, Peru, and Uruguay.

We find some support for the theory that children in the developing world benefit in the educational arena from living in a home with two biological parents when looking at bivariate relationships in three countries. And there is also some support for the theory that children in single parent families fare better than those with no biological parent in the household in the bivariate relationships in five countries. But after taking into account background characteristics that are related to the likelihood of being enrolled in school, the advantage of living with two biological parents disappears in all but two countries— Colombia and Uruguay. In most countries in this analysis, children living with one of their biological parents (i.e., a single-parent family, step-family, or an extended family with one biological parent) are as likely to be enrolled in school as are children living with both of their biological parents in a nuclear or extended family. In Colombia and Uruguay, however, children are at an educational advantage if they are being reared by their two biological parents.

This study's findings suggest that single parents—and this seems particularly probable for single parents in Sub-Saharan Africa and Asia, where kin are especially likely to help with education[32]—may be enlisting the support of extended family to help make up for any deficits in economic, cultural, or social capital for children associated with living

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[32] Eloundou-Enyegue and Shapiro. 2004; Pong. 1996.

outside of a home with two biological parents. It may also be the case that biological fathers in some of the countries studied for this analysis are less involved or focused on their children's education than is typically the case in intact families in North America.[33] In the future, we intend to conduct additional analyses that would include extended family members living in the household to see whether the extended family provides a "safety net" that buffers against any challenges associated with living with only one biological parent (in most cases, a single mother). We will also seek to determine if levels of paternal engagement in children's education vary by country or region.

On the other hand, this study does find that family structure matters in one important respect in five out of the seven countries studied. Specifically, secondary school-age children living in a home without their biological parents—either due to orphanhood or fosterage—are significantly less likely to be enrolled in school than their peers who are living with both biological parents.

This analysis has several important limitations. First, because of the cross-sectional nature of our research design, we are not able to make causal claims about the links between family structure and education found in this study. Also, there is tremendous variation in the circumstances of children, families and schools across countries that are not captured by these data and which need to be explored in order to more fully understand these patterns in the data. Third, the complexity and incompleteness of the DHS family relationship data limited our ability to determine how the presence of kin or step-parents may moderate the association between family structure and education

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[33] Paul R. Amato and Fernando Rivera. 1999. "Paternal Involvement and Children's Behavioral Problems." *Journal of Marriage and* Family 61: 375-384; Buchman and Hannum. 2001. Pp. 83-84; Wilcox *et al*. 2005.

documented in this study. Future research will have to determine what, if any, effect the presence of step-parents and extended family members may have on secondary school-age children's educational enrollment in the developing world.

This study indicates that secondary school-age children in the developing world with two biological parents are about as likely to be enrolled in school as are children living with one biological parent, all things being equal. Nevertheless, children living in a home without either of their biological parents are significantly less likely to be enrolled in school. This suggests that, on average, biological parents in the developing countries studied are more likely to make educational investments in their children than are kin or social parents who are not the biological parents of their children.[34] This analysis demonstrates how family structure can shape the arc of children's educational attainment in the developing world. And as children worldwide increasingly live without one or both of their biological parents, the challenge of attaining universal education for all children may become more difficult.

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[34] Anne Case, I-Fen Lin, and Sara McLanahan. 2000. How Hungry is the Selfish Gene?" *The Economic Journal* 110: 781-804.

Table i: The Analytic Sample. For each country, weighted percentage and sample size (#) of secondary school age children[1] living with two, one, or no biological parents

Country	Total		2 biological parents		1 biological parent		No biological parents	
	#	%	#	%	#	%	#	%
Colombia 2005	13038	100	6798	52.1	4539	34.8	1702	13.1
Egypt 2000	9311	100	8053	86.5	1123	12.1	136	1.5
India 2005-06	49040	100	39228	80.0	6905	14.1	2906	5.9
Kenya 2003	3160	100	1598	50.6	956	30.3	606	19.2
Nigeria 2003	2523	100	1517	60.2	519	20.6	487	19.3
Peru 2000	9655	100	6654	68.9	2007	20.8	994	10.3
Uruguay 2008	9841	100	5765	58.6	3667	37.3	409	4.1

[1]Age groups: Colombia, Egypt, India and Uruguay: 11-14; Kenya, Nigeria, and Peru: 12-14

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Table 1. Percentage of secondary school age children[1] enrolled in school for each country, by number of their biological parents in the household

Country	Percentage enrolled in school[2]		
	2 biological parents[a]	1 biological parent[b]	No biological parents[c]
Colombia 2005	93.04 [b,c]	91.6 [a,c]	87.21 [a,b]
Egypt 2000	84.4 [b,c]	79.25 [a,c]	69.27 [a,b]
India 2005-06	81.48 [b,c]	76.01 [a]	73.53 [a,a]
Kenya 2003	91.11 [c]	90.76 [c]	82.44 [b]
Nigeria 2003	72.87 [b]	79.37 [a]	73.68 [a]
Peru 2000	92.54 [c,c]	91.9 [c]	86.14 [a,b]
Uruguay 2008	95.8 [b]	94.2 [a]	93.3 [a]

a,b,c The estimate differs significantly (p<.05) from the group denoted by the letter.

[1]Age groups: Colombia, Egypt, India and Uruguay: 11-14; Kenya, Nigeria, and Peru: 12-14

[2]All countries except for Peru used the variable HV122: educational level attended during the current school year. If students were enrolled in primary or secondary school, they were coded as enrolled in school for this analysis. Because Peru did not collect HV122, the variable used to calculate the percentage enrolled in school for Peru was HV121: attended school during the current school year.

Source: Demographic and Health Surveys, MEASURE DHS+ and MEASURE DHS waves, Continuous Household Survey of Uruguay

Table 2. Odds ratios for logistic regression analysis of percentage of secondary school age[1] children enrolled in school,[2] for each country-- Version A (wealth of the household included in the model)

Characteristics and Intercept	Odds Ratio[3]													
	Colombia 05		Egypt 00		India 05-06		Kenya 03		Nigeria 03		Uruguay 08		Peru 00	
Intercept	6661.1	***	458.80	***	965.2	***	1616.6	***	3.52		1287581.0	***	246418.45	***
Number of child's biological parents in household														
(2 biological parents)	1.00		1.00		1.00		1.00		1.00		1.00		1.00	
1 biological parent	0.72	**	0.90		0.97		1.02		1.30		0.80	*	0.96	
No biological parents	0.53	***	0.50	**	0.58	***	0.42	***	0.78		0.83		0.49	***
Years of Education of Head of Household (for every additional year of education)	1.09	***	1.17	***	1.17	***	1.19	***	1.17	***	1.09	***	1.12	***
Wealth of the household[3]														
Category 1 - poorest	0.38	**	‡		0.14	***	0.09	***	1.11		0.14	***	0.36	**
Category 2	0.53	*	0.16	***	0.18	***	0.24	*	0.40	**	0.17	***	0.41	**
Category 3	0.38	*	0.19	***	0.18	***	0.49		0.28	***	0.25	***	0.35	**
Category 4	0.30	**	0.17	*	0.24	***	0.46		0.49	*	0.29	***	0.30	***
Category 5	0.35	***	0.52	**	0.28	***	0.26		0.62		0.30	***	0.52	
Category 6	0.55	*	0.51	***	0.52	***	0.37		1.33		0.40	**	0.69	
Category 7	0.95		1.39	*	1.04		0.68		2.08		0.82		1.08	
(Category 8 - wealthiest)	1.00		1.00		1.00		1.00		1.00		1.00		1.00	
Urbanicity														
(Urban)	1.00		1.00		1.00		1.00		1.00		1.00		1.00	
Rural	0.51	***	1.13		1.52	***	2.90	***	0.70		0.35	***	0.67	*
Child's Sex														
(Male)	1.00		1.00		1.00		1.00		1.00		1.00		1.00	
Female	1.45	***	0.55	***	0.62	***	0.74		0.70	**	1.70	***	0.56	***

| Child's Age (for every additional year of age) | 0.62 *** | 0.70 *** | 0.68 *** | 0.67 *** | 1.01 | 0.45 *** | 0.49 *** |

Significance: *** p<.001   **p<.01   *p<.05

‡ Sample size too small to calculate odds ratio.

[1]Age groups: Colombia, Egypt, India and Uruguay: 11-14; Kenya, Nigeria, and Peru: 12-14

[2]All countries except for Peru used the variable HV122: educational level attended during the current school year. If students were enrolled in primary or secondary school, they were coded as enrolled in school for this analysis. Because Peru did not collect HV122, the variable used to calculate the percentage enrolled in school for Peru was HV121: attended school during the current school year.

[3] By design, for the reference category, shown in (parentheses), odds ratio is 1.

[4] Wealth was determined by the quality of housing characteristics (e.g. flooring, source of drinking water, toilet facilities) and household assets (e.g. having a radio, electricity, a television, a refrigerator, a private car).

Source: Demographic and Health Surveys, MEASURE DHS+ and MEASURE DHS waves, and Continuous Household Survey of Uruguay